

CLAIMS

What is claimed is:

1. A method for forming a semiconductor device comprising:
  - providing a semiconductor substrate;
  - 5 forming a layer over the semiconductor substrate;
  - forming an opening within the layer;
  - forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening.
- 10 2. The method of claim 1, wherein forming the insulating layer further comprises depositing the insulating layer at approximately atmospheric pressure.
3. The method of claim 2, wherein depositing is performed by chemical vapor deposition (CVD).
- 15 4. The method of claim 1, wherein forming the insulating layer further comprises depositing the insulating layer and annealing the insulating layer at approximately atmospheric pressure.
5. The method of claim 4, wherein annealing comprises a furnace anneal.
- 20 6. The method of claim 4, wherein annealing comprises a localized anneal.
7. The method of claim 4, wherein annealing further comprises annealing in a phosphorus atmosphere.
- 25 8. The method of claim 4, wherein annealing comprises using a laser.
9. The method of claim 4, wherein annealing comprises reflowing the insulating layer.
- 30 10. The method of claim 1, wherein forming the layer over the semiconductor substrate comprises forming a polysilicon layer.

11. The method of claim 1, wherein forming an insulating layer comprises forming a phosphosilicate glass (PSG).

5 12. The method of claim 1, further comprising:

placing the semiconductor substrate into a vacuum environment before forming an insulating layer;

removing the semiconductor substrate from the vacuum environment, wherein forming the insulating layer further comprises depositing the insulating layer; and  
10 reflowing the insulating layer after removing the semiconductor substrate from the vacuum environment.

13. The method of claim 1, wherein forming the layer over the semiconductor substrate comprises forming a conductive layer.

15 14. A method for forming a semiconductor device comprising:

providing a semiconductor substrate;

forming a sacrificial layer over the semiconductor substrate;

forming a layer over the sacrificial layer;

etching the layer to expose a portion of the sacrificial layer;

20 removing the sacrificial layer;

forming an opening within the layer;

forming a material over the opening; and

sealing the opening with the material, wherein sealing occurs at approximately atmospheric pressure.

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15. The method of claim 14, wherein forming the material and sealing the opening are performed simultaneously.

30 16. The method of claim 15, wherein forming the material and sealing the opening are performed by chemical vapor deposition with a pressure approximately equal to atmospheric pressure.

17. The method of claim 14, wherein sealing the opening comprises annealing the material.

18. The method of claim 14, wherein forming the material comprises forming a conductive material.

5    19. The method of claim 14, wherein forming the material comprises forming an insulating material.

20. The method of claim 19, wherein forming an insulating material comprises forming a phosphosilicate glass (PSG).

10    21. The method of claim 14, wherein sealing the opening comprises annealing in a phosphorus atmosphere.

22. The method of claim 14, wherein sealing the opening comprises annealing using a laser.

15    23. A method for forming a semiconductor device comprising:  
      providing a semiconductor substrate having a first set of extensions and an anchor;  
      forming a first layer coupled to the anchor and able to move relative to the substrate in  
      at least one direction, wherein the layer has a second set of extensions, wherein  
      the first set of extensions and the second set of extensions are interdigitated and  
      form a set of gaps;  
      placing the semiconductor substrate in a vacuum;  
      forming an insulating layer over the set of gaps in the vacuum;  
      removing the semiconductor substrate from the vacuum; and  
      annealing the insulating layer to seal the set of gaps after removing the semiconductor  
      substrate from the vacuum.

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